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CURRENT LITERATURE.

BOOK REVIEWS.

A text-book of botany for students of pharmacy.

THIS book, by Drs. Rusby and Jeliffe, is really a second edition, the first being issued under the title of *Essentials of Pharmacognosy*. The present work¹ is greatly enlarged and greatly improved. Part I by Dr. Rusby treats of vegetable organography. The drawings are original and for the most part very good. The subject-matter is treated with great care and with a special view to its didactic purposes. A criticism that may be offered is that too many definitions and explanations of unusual and trivial botanical terms are given. This criticism seems especially applicable in consideration of the fact that botany in colleges of pharmacy must be presented in an elementary way. It does not seem advisable to load the mind of the student with definitions of terms which are self-explanatory, or which may never be used. Some of the definitions are confusing because of a lack of proper coordination and subordination of terms. This defect is apparently not due to carelessness, but due to a difficulty in coming to a decision as to what should be coordinated and what should be subordinated. The cryptogamous plants are treated in a very elementary and somewhat antiquated manner, defects which we hope may be remedied in subsequent editions.

Taken as a whole, Dr. Rusby's part possesses many commendable features and we believe it to be the best book of its kind by an American author.

Part II, Vegetable Histology, by Dr. Jeliffe, is a great improvement upon the former edition, but there is much room for further improvement. The subject-matter is presented in rather an erratic manner. The author should also observe greater care and accuracy in making statements. For example, the cell is said to be "the unit of structure as well as the unit of physiological activity," which is an antiquated idea. Again, the author states that "animal tissues are in general characterized by the slight development or absence of cell walls," which is not exactly in accordance with facts. Under the discussion of protoplasm "four prominent theories" of protoplasmic structure are mentioned: (1) "The granule theory; (2) the reticulum theory; (3)

¹RUSBY, H. H. and JELIFFE, S. E.: Morphology and histology of plants, designed especially as a guide to plant-analysis and classification, and as an introduction to pharmacognosy and vegetable physiology. Part 1. The morphology of plants, by H. H. Rusby. Part I. Plant histology, by Smith Ely Jeliffe. 8vo, pp. xii + 378. *figs.* 693. New York: The Authors. 1899. \$3.00.

the foam theory; and (4) the filar theory." These are not true theories and the very misleading and defective statements of them will only convey erroneous ideas of the really grand cytoplasmic studies of Altmann, Bütschli, Strasburger, Wiesner and others. The author states that the "cell can live without cytoplasm, but without a nucleus it is devoid of the power of growth and repair," a startling statement even to the layman, in consideration of the fact that on the opposite page it is stated that "cytoplasm is the seat of the active life processes of the plant." It is quite evident that the defects cited and many others are largely due to carelessness rather than a lack of information.

The illustrations are good, being carefully selected from the works of various authors. There are also good original illustrations. The citation of authorities is of great value to students who have the desire and opportunity to do collateral reading.

The book is well made, with good type, paper, and fairly good binding. The index is very complete, but we regret that it is in two parts.

A text-book of botany fully adapted to the needs of students of pharmacy is not yet produced, but the authors are to be congratulated upon having produced a text which meets the requirements better than any other book upon the market. — ALBERT SCHNEIDER.

By way of supplement to the above it needs to be said that Dr. Rusby's part of the book does not depart from the usual type of books, in vogue twenty years ago, intended to "prepare" the student for "plant analysis." Twenty-seven pages are given to the cryptogams, which is too little for adequate presentation even in the most elementary way, and too much to be wasted. Sixty-seven pages are all that can be spared to the morphology of root, stem, and leaf, and most of this is purely formal; while almost 150 pages are devoted to the flower, fruit, analysis, collecting, nomenclature, etc. In this portion, also, the morphology is not modern, to say the least. Why assure a student that "a flower will obey certain well-defined laws" when the bulk of the chapters on the flower are concerned with explaining how they "disobey" these "laws" and in defining terms that are used to describe departures from a purely imaginary pattern? The whole treatment of the flower, indeed, proceeds upon the pernicious theory of metamorphosis.

When Dr. Rusby enters upon the attempt to present the idea of alternation of generations, beginning with spermatophytes, he essays a most difficult, if not impossible, task. His exposition shows that he has not understood the homology of some of the parts, and he has even misstated the process of fertilization. Indeed, whenever the author gets away from the terms necessary for phytography, in which he is an adept, he betrays a lack of familiarity with modern thought that is only too common among systematists, even the greatest. As an "introduction to analysis" the book may be useful, but as a "morphology of plants" it is open to the most adverse criticism. The old was better. — C. R. B.